

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

- 1-37. (Canceled)
38. (New) An isolated polynucleotide comprising at least 15 contiguous nucleotides from the nucleotide sequence of SEQ ID NO:4, wherein said polynucleotide comprises at least one nucleotide sequence encoding the amino acid sequence of SEQ ID NO:9, SEQ ID NO:10, or amino acids 880-885 of SEQ ID NO:5.
39. (New) The polynucleotide of claim 38, wherein said polynucleotide comprises at least 30 contiguous nucleotides from the nucleotide sequence of SEQ ID NO:4.
40. (New) The polynucleotide of claim 38, said polynucleotide comprising at least 45 contiguous nucleotides from the nucleotide sequence of SEQ ID NO:4.
41. (New) The polynucleotide of claim 38, 39, or 40, wherein said polynucleotide encodes an immunogenic fragment or an immunogenic derivative of a *Helicobacter pylori* cytotoxin-associated immunodominant (CAI) antigen having the amino acid sequence of SEQ ID NO:5.
42. (New) The polynucleotide of claim 41, wherein said polynucleotide encodes an immunogenic derivative of the *Helicobacter pylori* CAI antigen.
43. (New) The polynucleotide of claim 41, said polynucleotide encoding an immunogenic fragment of the *Helicobacter pylori* CAI antigen.
44. (New) An isolated polynucleotide encoding at least five contiguous amino acids from the amino acid sequence of SEQ ID NO: 5, wherein said polynucleotide comprises at least one nucleotide sequence encoding the amino acid sequence of SEQ ID NO:9, SEQ ID NO:10, or amino acids 880-885 of SEQ ID NO:5.
45. (New) A vector comprising the polynucleotide of claims 38 or 44.

46. (New) A host cell transformed with a vector of claim 45.
47. (New) The polynucleotide of claim 41 wherein said polynucleotide is a recombinant polynucleotide.
48. (New) The polynucleotide of claim 38, said polynucleotide comprising at least 15 contiguous nucleotides from nucleotide position 2776 to nucleotide position 3466 of the nucleotide sequence of SEQ ID NO:4.
49. (New) The polynucleotide of claim 44, said polynucleotide encoding at least 10 contiguous amino acids from the amino acid sequence of SEQ ID NO:5.
50. (New) The polynucleotide of claim 44, said polynucleotide encoding at least 15 contiguous amino acids from the amino acid sequence of SEQ ID NO:5.
51. (New) The polynucleotide of claim 44, 49, or 50, said polynucleotide encoding an immunogenic fragment or an immunogenic derivative of a *Helicobacter pylori* CAI antigen having the amino acid sequence of SEQ ID NO:5.
52. (New) The polynucleotide of claim 51, said polynucleotide encoding an immunogenic derivative of the *Helicobacter pylori* CAI antigen.
53. (New) The polynucleotide of claim 51, said polynucleotide encoding an immunogenic fragment of the *Helicobacter pylori* CAI antigen.
54. (New) The polynucleotide of claim 44, said polynucleotide encoding amino acids 1 – 1147 of the amino acid sequence of SEQ ID NO:5.
55. (New) The polynucleotide of claim 51, wherein said polynucleotide is a recombinant polynucleotide.
56. (New) The polynucleotide of claim 44, said polynucleotide encoding a *Helicobacter pylori* CAI antigen, immunogenic fragment or immunogenic derivative thereof which is immunologically identifiable with the amino acid sequence of SEQ ID NO:5.

57. (New) The polynucleotide of claim 44, said polynucleotide encoding at least amino acid positions 748 to 977 of the amino acid sequence of SEQ ID NO:5.

58. (New) The polynucleotide of claim 38, said polynucleotide comprising the contiguous nucleotides from nucleotide position 535 to nucleotide position 3975 of the nucleotide sequence of SEQ ID NO:4.

59. (New) The polynucleotide of claim 38, said polynucleotide encoding a *Helicobacter pylori* CAI antigen, an immunogenic fragment thereof or an immunogenic derivative thereof which is immunologically identifiable with the amino acid sequence of SEQ ID NO:5.

60. (New) A vector comprising the polynucleotide of claim 41.

61. (New) A vector comprising the polynucleotide of claim 51.

62. (New) The polynucleotide of claim 38, 39, or 40, wherein said polynucleotide comprises at least one nucleotide sequence of nucleotides 3172-3189 of SEQ ID NO:4, nucleotides 3202-3216 of SEQ ID NO:4, nucleotides 3259-3273 of SEQ ID NO:4, nucleotides 2641-2676 of SEQ ID NO:4, or nucleotides 2776-2811 of SEQ ID NO:4.